Clue for Digit 1

Match these labels to their symbols.

bulb

cell

open switch

closed switch

buzzer

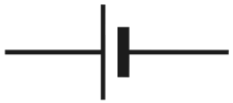
battery

voltmeter

ammeter













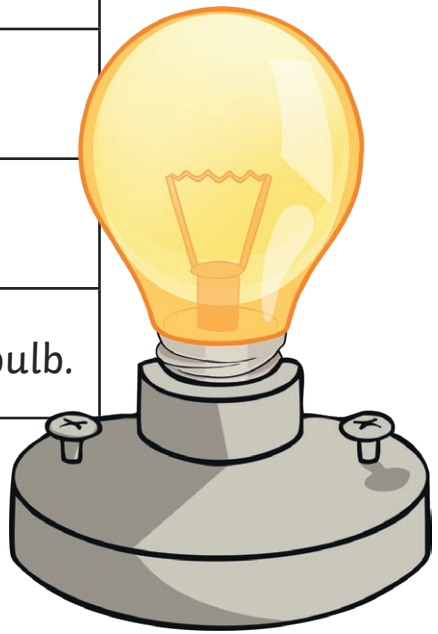


One label is missing its symbol. Count the number of letters in this label. The number of letters is the first digit of the security code.

Clue for Digit 2

How many of these circuits would result in a bulb not lighting up?

A circuit with a battery, a bulb and an open switch.
A circuit with two batteries, a closed switch and a bulb.
A circuit with a battery and a bulb.
A circuit with a closed switch, a battery, a buzzer and a bulb.
A circuit with a motor, a bulb and a closed switch.
A circuit with a closed switch, a battery, a motor, a buzzer and a bulb.

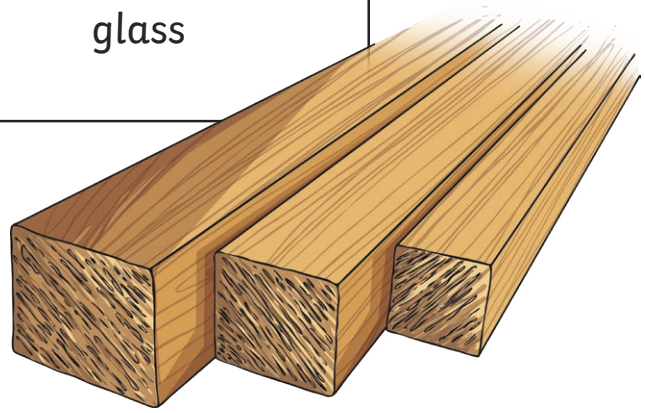


The number of circuits that would result in a bulb not lighting up is the second digit of the security code.

Clue for Digit 3

How many of these materials are insulators?

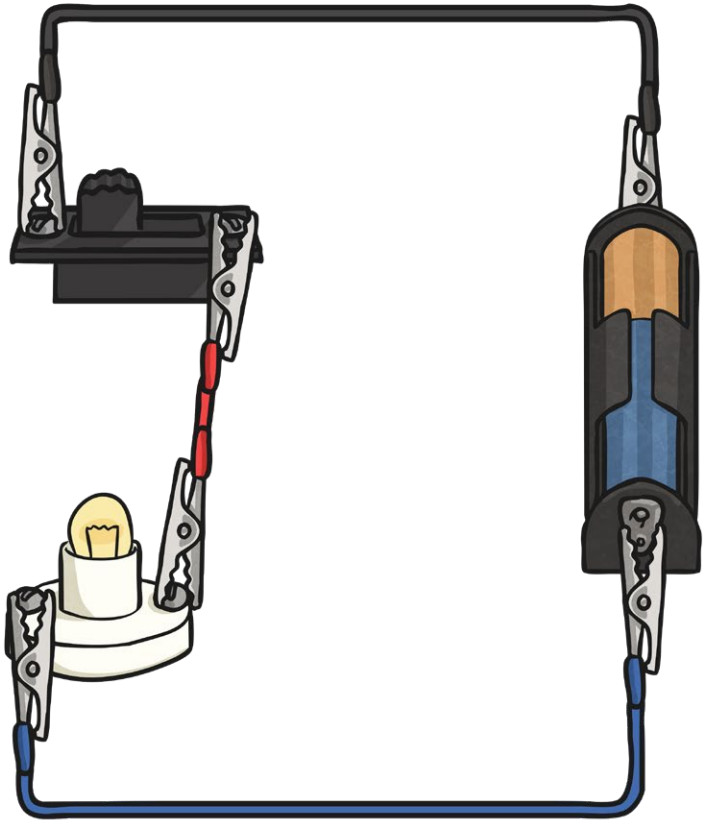
copper	wood	water
iron	cotton	aluminium
rubber	gold	glass

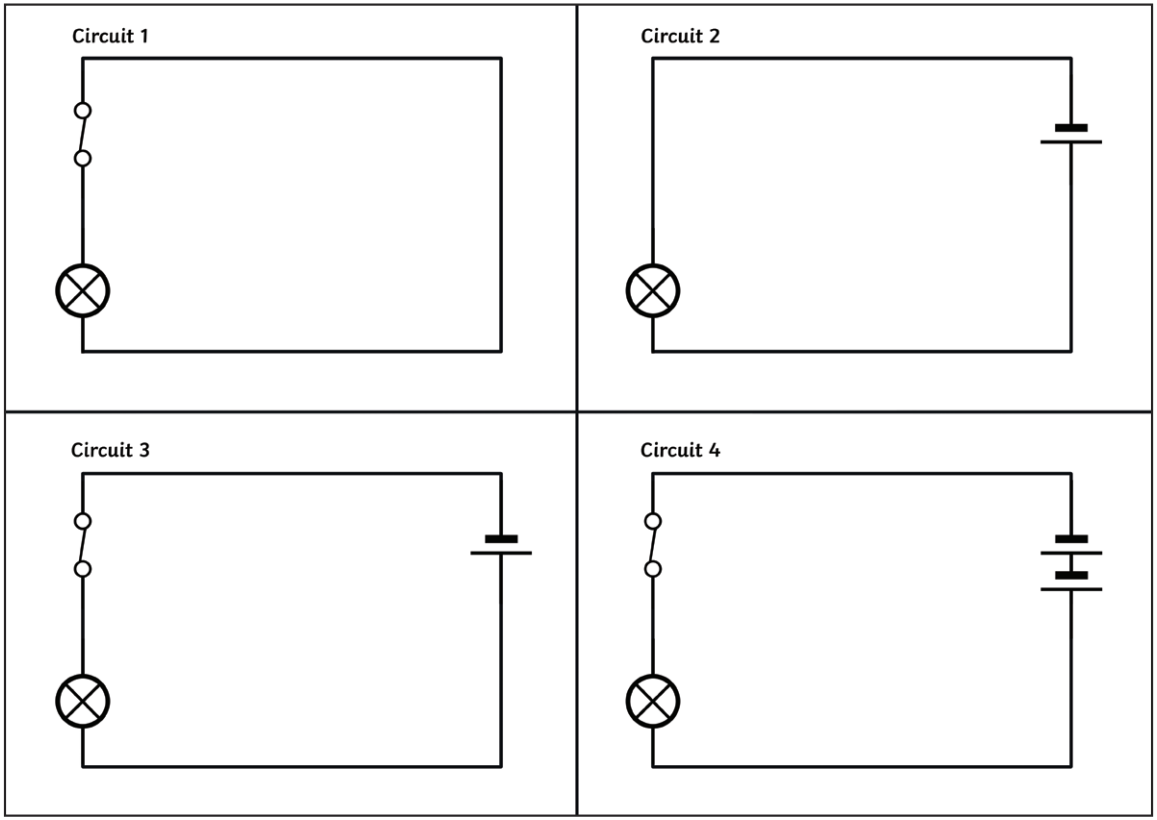


The number of insulators is the third digit of the security code.

Clue for Digit 4

Which circuit diagram matches this picture of a lit bulb?

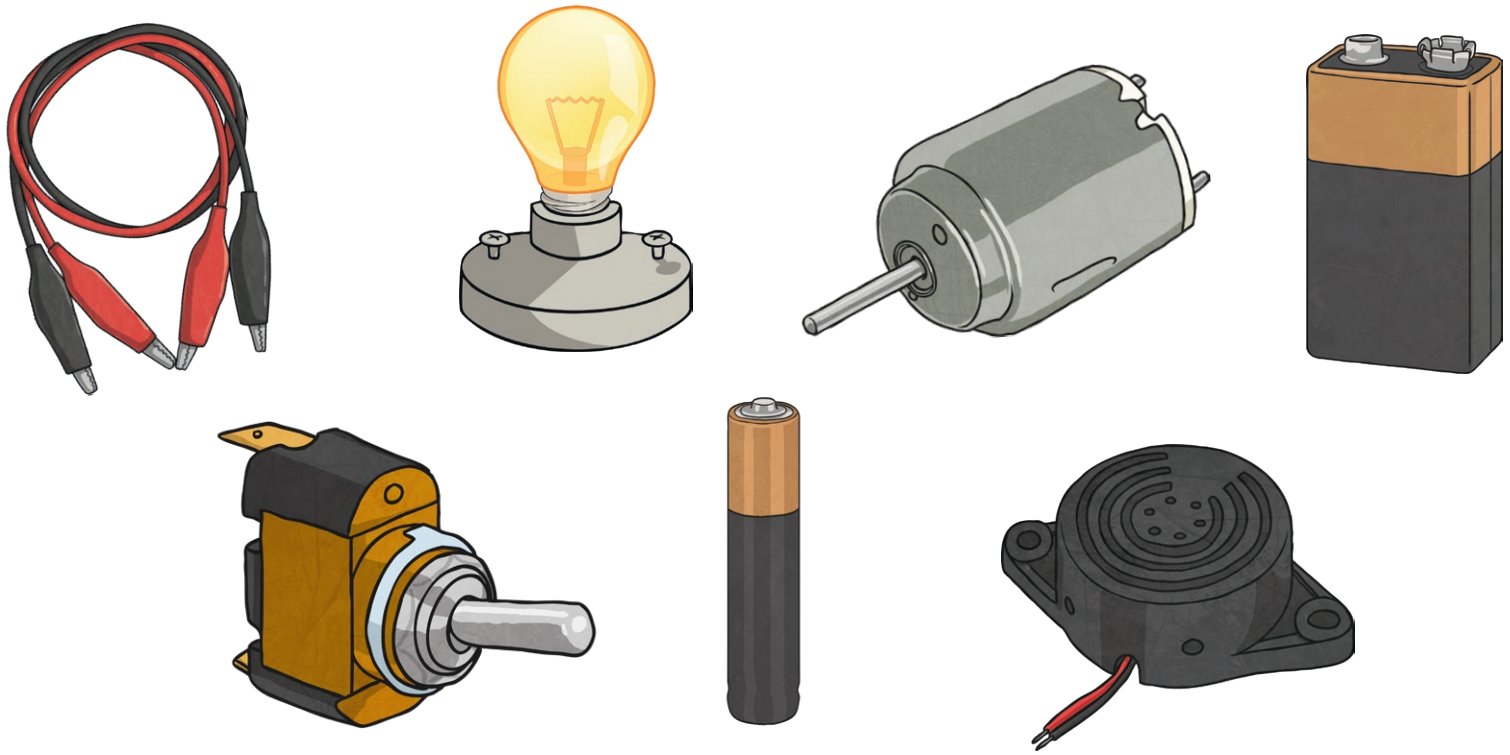




The number of the correct circuit diagram is the fourth digit of the security code.

Clue for Digit 5

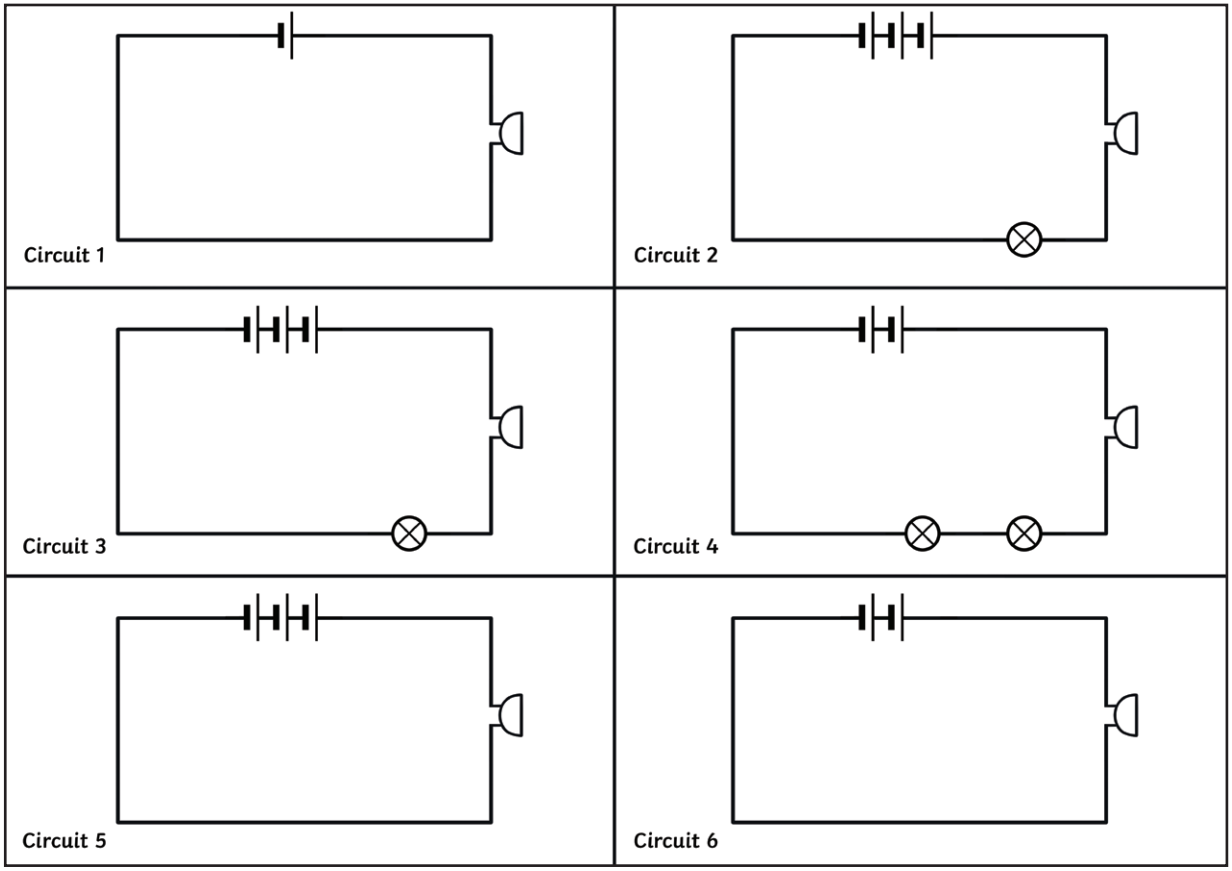
Which of these electrical components would you need to investigate how the amount of voltage in a circuit affected the volume of the buzzer?



The number of things you would need is the fifth digit of the security code.

Clue for Digit 6

Look at these circuits. They all contain a buzzer. In which circuit will the buzzer be the loudest?

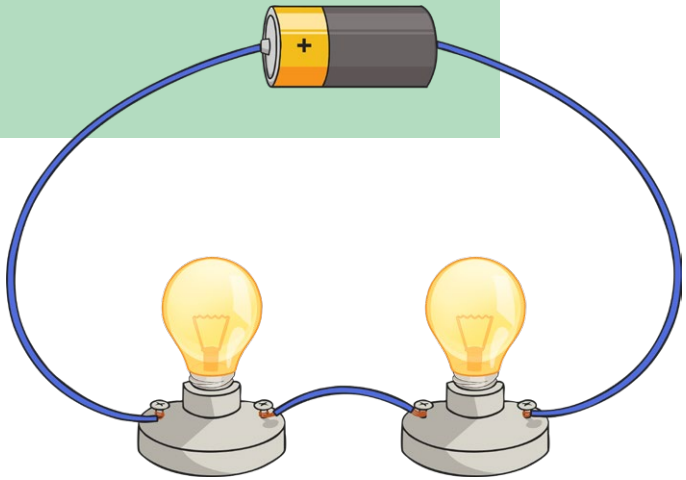


The number of the circuit in which the buzzer will be the loudest is the sixth digit of the security code.

Clue for Digit 7

Fill in the missing word to complete the sentence.

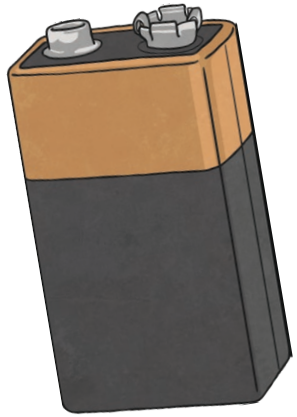
The steady flow of electrons in a circuit, measured in amperes (amps), is known as the _____.



The number of letters in the missing word is the seventh digit of the security code.

Clue for Digit 8

Read the clues about electricity and write the answer with one letter in each box.



A battery is one or more of these.

A material that allows the flow of electricity.

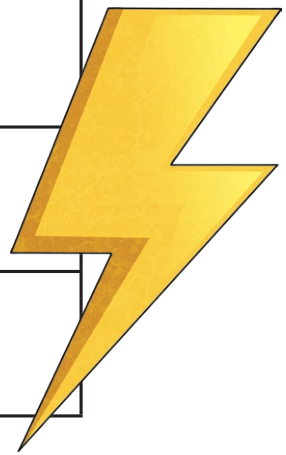
A circuit that does not work.

Rearrange the letters in the highlighted boxes to spell the eighth digit of the security code.

Clue for Digit 9

Read these statements about electricity. How many of them are true?

There are two main types of electricity, static electricity and current electricity.
Electricity can be measured in units called volts.
Lightning is not an example of natural electricity.
You can create a break in a circuit without creating an incomplete circuit by adding a switch.
An ammeter measures how many volts there are in a circuit.
Electricity needs a power source to work.

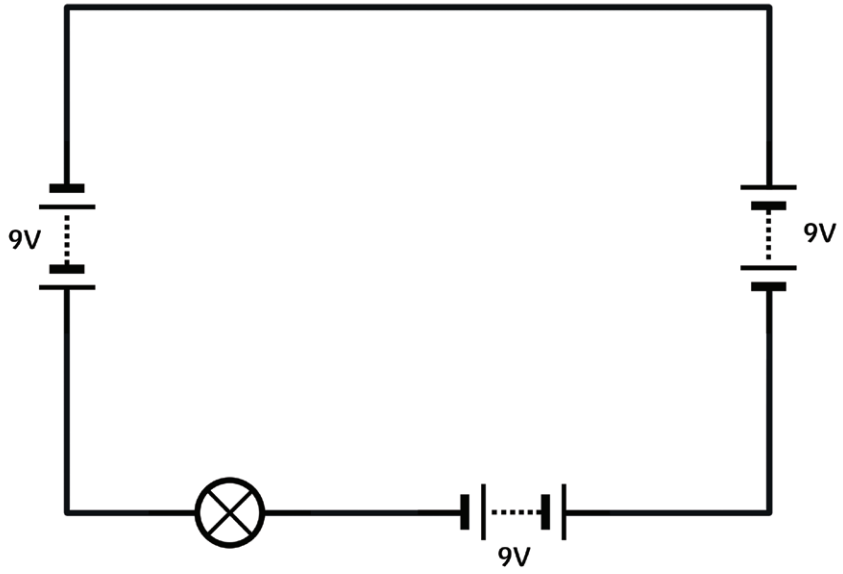


The number of true statements is the ninth digit of the security code.

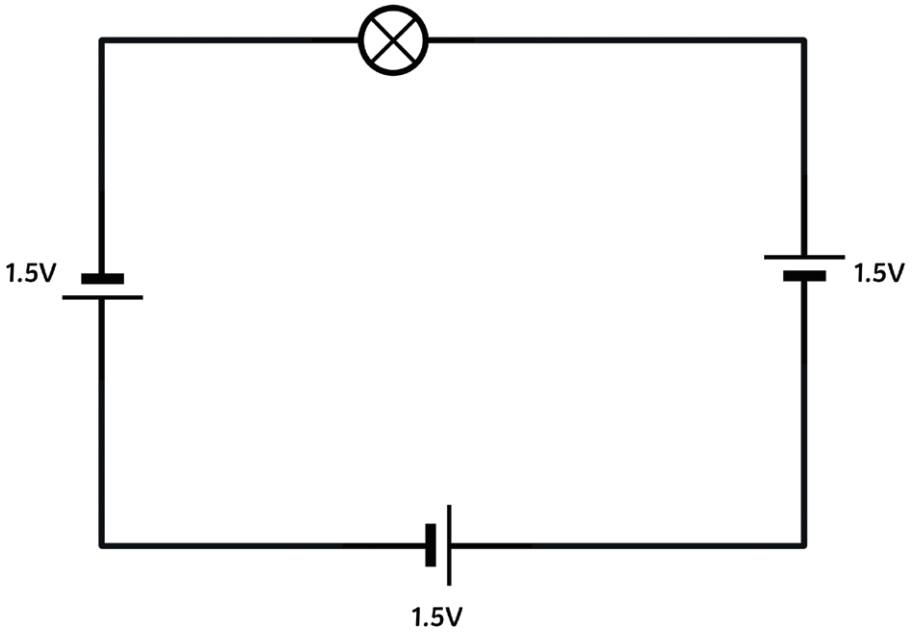
Clue for Digit 10

Look at these two circuits. Divide the number of volts in circuit A by the number of volts in circuit B.

Circuit A



Circuit B



The answer is the tenth digit of the security code.